ORIGINAL

BEFORE THE ARIZONA POWER PLANT

AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT, IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES, SECTIONS 40-360, et seq., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING CONSTRUCTION OF A 230 kV DOUBLE-CIRCUIT TRANSMISSION LINE ORIGINATING AT THE PLANNED AND PERMITTED ABEL SUBSTATION, NEAR JUDD AND ATTAWAY ROADS IN PINAL COUNTY, TO THE PLANNED AND PERMITTED RS-17 SUBSTATION, ADJACENT TO THE EXISTING MOODY SUBSTATION, LOCATED NEAR PECOS AND RECKER ROADS, IN THE TOWN OF GILBERT, MARICOPA COUNTY, ARIZONA, AND INCLUDING A NEW 230/69 kV SUBSTATION NEAR THE INTERSECTION OF COMBS AND MERIDIAN ROADS, IN OR ADJACENT TO THE TOWN OF QUEEN CREEK, ARIZONA.

Docket No. L-00000B-09-0311-00148

Case No. 148

NOTICE OF FILING WITNESS SUMMARIES

Pursuant to the Procedural Order dated June 17, 2009, Salt River Project Agricultural Improvement and Power District ("SRP") is filing the attached witness summaries

DATED this 31st day of July, 2009.

JENNINGS, STROUSS & SALMON, P.L.C.

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By: Michelle Kaser

Summary of Purpose and Need Testimony
Panel of Chuck Russell
July 31, 2009

Mr. Russell will testify to the following:

- He is a Principal Planning Engineer in SRP's Transmission Planning Department.
- He is responsible for providing support to the project manager, Tom Novy, on the purpose of this project and how the project integrates into SRP's system and future plans.
- He has been with SRP for thirty years, 27 years involved in the planning of SRP's transmission system. The last eighteen or so years, he has either supported, participated in, or directed the work necessary to make application and receive Certificates of Environmental Compatibility for transmission projects for the Salt River Project.
- Salt River Project was formed by the landowners in the Salt River Valley at the turn of the last century to "reclaim" the arid desert land that was Phoenix. SRP has grown with Central Arizona.
- SRP serves over 930,000 electric customers over its 2,900 square mile service territory. SRP is one of the largest municipal (which means publically owned) electricity utilities in the nation.
- He will provide an explanation of SRP's transmission system and how energy is delivered to homes and businesses.
- SRP has a defined service territory, and has created a "master plan" for its receiving station areas and the RS24 area is a part of that plan.
- SRP has divided its service area into areas that will be served by a central 230/69kv substation. Most of these areas already have a 230/69kV substation. The area around Queen Creek, which we call RS24, does not yet have its own substation.
- The Queen Creek Area is currently being served by existing facilities to the west and north. As the load grows, the capacity of the other systems is being used by the load development near those systems and SRP has to build additional facilities to provide for the existing and developing load in the RS24/Queen Creek Area.
- The Abel Moody transmission project will site a new RS24 substation near the center of the load area. It will connect RS17, a permitted but not constructed substation with the Abel Substation which has also been permitted but not built. The RS24 Substation will be served through the 230kV transmission system, and will step voltages down to 69kV, where they can be distributed locally. The 230kV link will be provided from two directions, the Able Substation to the Southeast, and the Schrader and Santan 230kV line from the Northwest. The project will also accommodate 69kV circuits on the same structures, where appropriate and needed.
- The project has three purposes: 1.) delivery of power to customers; 2.) increase reliability of the electric system and 3.) provide access to renewables and other generation resources.

- Currently, Queen Creek is being served by 69kV lines that bring power from 230kV stations in other receiving station areas such as the Santan station, the Schrader station, the Dinosaur station, and Browning station.
- There are three reasons to change this: 1.) reduce the risk of an outage caused by the longer lines which have greater exposures to outages, 2.) reduce electrical losses in the system and bolster voltages at the customer's meter and 3.) accommodate load growth by increasing transformer capacity.
- Growth has slowed but, there is still growth, and that growth drives the need for this project. SRP feels the "tipping point" for the need of a local 230kV station will occur around the 2016 time frame.
- The second reason for the Project is reliability. The existing, or soon to be existing, system is a single line from the Abel station up through Browning into SRP's existing system. This Project will create a loop from the from the Abel station into SRP's system. With the addition of this line, you can remove any section of line, or open breakers in the stations connected by these lines without having to remove customers from service.
- The third purpose relates to regional transmission planning and the ability to bring new resources to load. A robust system will support all types of generation. But, our planners recognize that much of the new generation will come from renewable sources, which may be placed in geographically diverse locations.
- The construction of the project will phased. The first of the two circuits would be in service by 2012. Creating a new Abel to Schrader 230kV line. The second 230kV circuit would be installed on the structures in 2014 and will connect to an existing position creating an Abel to Santan 230kV circuit. At this point, SRP would have an Abel to Schrader 230kV circuit and an Abel to Santan 230kV circuit on the project's structures. RS24 would be constructed for an in service date of 2016. Both lines will ultimately be terminated in the new station.
- SRP is requesting a 12 year CEC. Our current plans are to finish the project before this time, but load growth is quite difficult to project in the current environment, and it is possible that the construction may extend out further.
- Generally, SRP will use tubular steel poles. Typical double circuit 230kV poles are 115 feet tall. Double circuit 230kV lines with 69kV underbuild are typically 135 feet tall. Typical right of way width to accommodate both National Electric Safety Code and SRP's maintenance standards are approximately 100 feet wide. Typically spans, or the distances between towers range from 600 to 1,200 feet, depending on the type of structure and the height of the structure.
- There are places where these types will be modified in height or span for particular reasons.

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Public Outreach Testimony
Panel of Stephanie Winn and Mike Warner
Testimony Summary

Stephanie Winn and Mike Warner will present, in a panel format, a discussion of the SRP public process for the Abel Moody Transmission Project.

Stephanie Winn is Public Involvement representative at SRP assigned to the project. Mike Warner is the lead from Transcon Environmental for the project.

Ms. Winn will first generally describe SRP's commitment to the public and public involvement in projects. Ms. Winn will explain that SRP itself is a product of the people it serves. SRP works hard to provide needed facilities to communities in a cost effective and sensitive manner.

Mr. Warner will describe Transcon's role, to bring disciplines of environmental scientists, planners and other professionals, and to assist SRP and this Committee in applying the best information to the decision making process.

Ms. Winn will then describe the public process in this case. The process was extensive, involving numerous groups and individual meetings over a one year plus process. It is noteworthy that the Town of Queen Creek had formed an advisory group to help it develop a position in this case and was extensively involved in this public process.

Ms. Winn will describe that the public process was first envisioned as having three phases. The process was later expanded to four phases at the request of the Town of Queen Creek. Phase I was project initiation and route development. Phase II was route segment sensitivity analysis. Phase III was Alternative Alignment Comparison and Refinement. Phase IV was Preferred Alignment Selection.

Ms. Winn and Mr. Warner will then walk though the four phases in more detail. The purpose of Phase I was to introduce the need for the project and develop routing alternatives. Phase I had three essential tasks: (1) define the study area, (2) work with the public and jurisdictions to define and identify route option opportunities like linear features, section lines, canals, railroads, existing power lines; and sensitivities such as the airport, existing homes, and cultural sites; and (3) to have the public and jurisdictional entities help identify potential route alternatives. SRP came to the public at the very beginning of the project, literally bringing them a blank slate.

Phase 1

During Phase 1, SRP met with planning staff, managers and in several instances, elected officials from each of the impacted jurisdictional entities: Queen Creek, Mesa, Gilbert, Maricopa County, Pinal County and Florence. SRP also made a presentation to the Queen Creek Town Council early in Phase 1 to introduce the project to the Town.

At the recommendation of two jurisdictions, SRP made a presentation to the Greater San Tan Area Coalition on June 12, 2008. SRP also had the opportunity to make presentations to the Queen Creek's SRP Task Force on July 8, 2008, and to the Queen Creek Economic Development Commission on July 23, 2008.

Additionally SRP formed a Jurisdictional Working Group. This group was intended to provide input throughout the public process and to serve as a sounding board for the project team as SRP began each phase. The group was organized so they could hear concerns and preferences from one another in a collaborative framework. The group consisted of representatives from the Town of Queen Creek, Cities of Mesa, Gilbert, and Florence, Maricopa and Pinal Counties. The Phoenix-Mesa Gateway Airport joined the working group in the second phase. SRP met with the Jurisdictional Working Group on June 11, 2008 to introduce the project and begin the discussion of identifying possible routing alternatives. The first meeting included an exercise for siting and concluded with putting alignments and areas of sensitivity on maps. The City of Mesa, Town of Queen Creek and Town of Gilbert were in attendance at this meeting.

To involve the public, SRP established and publicized the project web site and telephone number. Ms. Winn primarily responded to the emails that came in through the online comment form. SRP held two open houses. The first open house was held at the Queen Creek Middle School on June 24, 2008. The second was held at the Copper Basin K-8 school on June 25, 2008. The outreach was multi-dimensional. On June 9, 2008 SRP issued a press release introducing the project and announcing the first round of open houses to the Arizona Republic main and Southeast editions, the East Valley Tribune, the Queen Creek Independent, the Hot Spot Journal, which is Johnson Ranch, the Casa Grande Independent/Blade/EV Independent/AJ Independent. On June 21, 2008 SRP inserted a paid advertisement in the Arizona Republic and the East Valley Tribune, notifying the public of upcoming open houses. Most importantly, SRP sent out a newsletter to zip codes in the study area and extending one quarter mile beyond the study area. This mailing went to 39,829 addresses.

Several briefings were given to the Queen Creek SRP task force.

Through an iterative process, the public and jurisdictional entities, with help from SRP and Transcon, identified a family of potential routes and alignments for the project. These are shown in Exhibit SRP-096 and Exhibit SRP-097. Transcon added additional alignments to produce the map shown in Exhibit SRP-098.

Phase II

Phase II was the Route Segment Sensitivity Analysis. The goal of Phase II was to present the "blue line map" that was developed in the first phase to the jurisdictional entities, the public and stakeholders and gather comments. SRP wanted to understand from all of those groups what each of those lines represented in terms of environmental issues, engineering considerations, and land use sensitivities. SRP helped them to define those criteria and listened to their concerns and preferences.

SRP briefed staff, managers and some elected officials at the beginning of Phase II. SRP gave them an overview of the process along with a summary of the discussions occurring at the Jurisdictional Working Group.. SRP gave the Queen Creek Town Council an update on the project on August 6, 2008 and let it know of the second round of open houses. SRP also made a presentation to the Queen Creek SRP task force on August 4, 2008.

SRP and Transcon held a Jurisdictional Working Group meeting on August 8, 2008. Attending the meeting were representatives from Mesa, Queen Creek, Gilbert, Florence, Maricopa County, Pinal County and the Phoenix-Mesa Gateway Airport. In this meeting each participant shared information regarding areas of sensitivity and reinforced some of their earlier

recommendations for alignments. The maps depicting all of the routes under consideration were presented and an overview of the process was provided. Some of the sensitivity or impact analysis criteria were reviewed. It was explained that the next step in the process was to evaluate the sensitivities along each route. It was also explained that this process would involve listening to the public in an additional series of public meetings. The Jurisdictional Working Group meeting ultimately focused on trying to identify the final alternatives for comparison and limit the number of alternatives to a reasonable range. Efforts were made to ensure that the jurisdictional entities and major stakeholders had alternatives they were interested in supporting for the final phase, assuming they performed well enough in the sensitivity analysis step.

Phase II was publicized through a press release on August 14, 2008, which was distributed to the Arizona Republic main and Southeast editions, the East Valley Tribune, the Queen Creek Independent, and the Hot Spot Journal (Johnson Ranch), and advertisements were placed in the Arizona Republic and East Valley Tribune, both on August 23, 2008. SRP also sent mailings to an expanded mailing list, which included an updated zip code list and our own list that was being developed from anyone who called, emailed, attended an open house or filled out a comment form. The second mailing was to 41,419 addresses. SRP held open houses at Copper Basin K-8 School on August 25, 2008, at the Queen Creek Middle School on August 26, 2008, and at the Payne Junior High School in Gilbert on August 27, 2008.

During the process SRP and Transcon interacted with the public and jurisdictional entities to evaluate alignments, based on an analysis of opportunities and sensitivities and public and jurisdictional preferences. The result is depicted in Exhibit SRP-104 which illustrates how the overlay process combined the various maps to produce the composite sensitivity map, from which the final alignments were derived. This composite map is the same map used with the public in Phase II, but with the alternatives categorized by high sensitivity (red), medium sensitivity (yellow) and low sensitivity (green).

Phase III

Phase III of the process was to develop final route alternatives from this composite sensitivity map and get feedback from the jurisdictions and the public. This was intended to be the final phase of the project. SRP held additional jurisdictional briefings with city and county staff. On September 3, 2008 SRP attended a work study session with the Queen Creek Town Council and provided them with a project update. SRP went back on October 1, 2008 to another work study session. Additionally SRP held a Jurisdictional Working Group Meeting on September 2, 2008, focusing on the southern end of the project. Queen Creek, Florence, Pinal County attended. SRP held another Jurisdictional Working Group Meeting on September 4, 2008 for the northern area of the project, which was attended by Mesa, Queen Creek, Gilbert, and Phoenix-Mesa Gateway Airport. SRP held a third Jurisdictional Working Group Meeting on October 7, 2008, at which Queen Creek, Gilbert, Florence, Phoenix-Mesa Gateway Airport, and Pinal County attended. At each of these meetings, the attendees provided input on the routes in their jurisdictions. SRP gave a presentation to the Northeastern Pinal Economic Partnership on September 11, 2008. SRP met with Queen Creek's SRP Task Force on October 6, 2008. Its recommendations were presented to the Town Council on October 15, 2008 in the form of a resolution that recommended a route for the 230kV line. The Town of Gilbert also provided SRP with letters stating its position on the routes through the town. A special stakeholders meeting was held at Phoenix-Mesa Gateway Airport on October 30, 2008 for the jurisdictions, SRP and the airport to discuss FAA and airport issues as they related to specific route alignments.

As a result of all these meetings SRP and Transcon developed the final route alternatives map, which is Exhibit SRP-107.

Phase III was publicized by updating the project web page with maps and open house information. SRP issued a press release on October 29, 2008 to the Arizona Republic, main and Southeast editions, the East Valley Tribune, the Queen Creek Independent, and the Hot Spot Journal. SRP also purchased advertisements in the Queen Creek Independent on November 5, 2008 in the Arizona Republic on November 8, 2008 and in the East Valley Tribune on November 8, 2008, SRP mailed a notice to an expanded list of addresses which included the updated zip code list, the expanding project mailing list, and most importantly SRP added a new list to this phase, researching property ownership within one half mile of each alignment. In all SRP sent out approximately 64,000 mailings.

The outcome of Phase III was that the jurisdictional entities and the public confirmed that there were routes on the map that they could support. SRP did not choose its preferred alignment in this phase.

Phase IV

The goal of Phase IV was to allow the public an additional opportunity to express a preference prior to SRP's selection of a preferred alignment in the northern part of the study area. SRP also wanted to share more detailed information about the remaining route alternatives.
SRP did jurisdictional briefings to managers and staff, as needed. On December 10, 2008 SRP met with the Queen Creek staff to share new information on several of the alternatives. Queen Creek asked for an extension of the schedule to review additional information and have more communications with the community. Over the next month, SRP worked with Queen Creek staff to outline an extended schedule that included an open house to share details about the final routes. On January 7, 2009 SRP briefed the Town of Gilbert and Phoenix-Mesa Gateway Airport on the extended schedule and route details. On January 16, 2009 SRP briefed the City of Mesa.

SRP publicized Phase IV by issuing a press release on January 22, 2009 to the Arizona Republic main and Southeast editions, and to the East Valley Tribune, Queen Creek Independent, and Hot Spot Journal. SRP also ran paid advertisements on January 25, 2009 in the Arizona Republic, the East Valley Tribune, and the Queen Creek Independent, and mailed a post card to SRP's 64,000 address list.

Following the two open houses, SRP met with the Town of Queen Creek and its attorneys to discuss the route alternatives. On April 7, 2009 SRP met with the Town of Queen Creek, City of Mesa, Town of Gilbert, and the Phoenix-Mesa Gateway Airport to see if the parties could reach consensus on a preferred alternative. Following these meetings there were additional meetings with the Town of Queen Creek's attorneys.

The result of Phase IV was the selection of a preferred alignment and the alternative alignments as shown on Exhibit SRP-116 and as presented in this application.

Mr. Warner will then state his opinion that the alignments presented in this application meet the environmental standards which govern this Committee's decisions.

Summary of Engineering and Environmental Testimony
Panel of Tom Novy and Mike Warner
July 31, 2009

Tom Novy testify that he is an SRP employee and is the Abel-Moody Project Manager. He is responsible for the overall coordination and permitting of this project. Mr. Novy has a Degree in Civil Engineering with emphasis in Project Management. 29 years experience, 24 with SRP, 11 years experience with transmission line siting. He was the Assistant PM on the PV-SEV 500kV Project and the Carrel 115kV Projects and the PM on the Desert Basin.

Mike Warner will testify that he is the President and Owner of Transcon. Transcon is the environmental and siting consultant for the Project. Mr. Warner has a Masters degree in Landscape Architecture with emphasis in environmental planning, and a Bachelors degree in agronomy with an emphasis in plants and soils. He is a member of the American Institute of Certified Planners. He has 20 years of experience working with utilities as an environmental planner and broad experience with permitting utility infrastructure with Federal and State agencies. He has been involved in permitting for more than 30 transmission lines ranging from 60kV to 500kV. He testified before the Power Plant and Land Siting Committee previously in four cases, including the Carrel, Sandario, Vail Area, and Vail to Valencia projects.

Mr. Novy will testify that the purpose of the project is to connect the Abel substation located at the intersection of Arizona Farms Road and the Central Arizona project Canal to the Santan to the Santan-Schrader line between Pecos Rd and Queen Creek Rd. in Gilbert and to provide a 230/69 kV substation near the intersection of the UPRR, Meridian Rd and Combs Rd to serve the load center in and around Queen Creek.

Mr. Novy and Mr. Warner will then describe each alignment and the substation sites and discuss aspects of each alignment that relate to the statutory criteria considered by the Committee when selecting a final route and other relevant siting issues including public comment.

<u>Ocotillo Alignment</u>

Mr. Warner will testify to the following:

- Current land uses along this alignment are primarily residential in the western areas and agricultural in the eastern areas.
- Existing and future recreation uses along the alternative include several parks and trails along Sonoqui Wash. These facilities provide opportunities for hiking, biking, walking and horseback riding.
- He will discuss his opinion of the Biological, cultural, historic, scenic and environmental features along the alignment. He will note that the alignment follows the Sonoqui Wash an ephemeral drainage and that a variety of cultural resources are found in the vicinity of the alignment.

Mr. Novy will testify to the following:

- Lack of public support for this alignment, opposition to this alignment by the Town of Gilbert and the petitions and letters received from residents at Trilogy expressing their opposition to this route.

- He will show the Committee the alignment through a series of aerial photographs of the route and simulations of the line.
- This is the second longest alternative in the north, 10.44 miles. The Power Rd. sub-alternative is the longest at 11.59 miles. The estimated cost of this route is $25.6 million.

North Railroad Alignment

Mr. Warner will testify to the following:

- He will discuss the current uses along the north railroad alignment, development along the North-Railroad Alignment is generally sparse with development concentrated around the areas where Ellsworth Road crosses the railroad near the Queen Creek Town Center. Residential uses are developing adjacent to or near the railroad, but the closest structures are commercial or industrial uses.
- He will discuss the planned future uses along this alignment noting that the Town of Queen Creek has designated the central part of the Town as an area for development of commercial and mixed uses directed at preserving the image of the Town. The Town of Queen Creek has also indicated their interest in preserving the Railroad as a corridor for commuter rail service.
- He will discuss the existing and planned recreation features found along this Alignment including that the Town of Gilbert has a district/regional park planned for an area north of Rittenhouse Road between the Roosevelt Water Conservation District Canal and Power Road.
- He will discuss the biological, cultural, historic, scenic and environmental features of the North-Railroad alignment. The North Railroad alignment has little biological sensitivity. Continued agricultural practices make surface artifacts difficult to find in subsequent investigations. The railroad is a historic feature; however, neither structures nor access roads are planned within the railroad right-of-way and there are no substantive scenic areas along this route.

Mr. Novy will testify to the following:

- He will explain the public input received on the North-Railroad Alignment noting that early in the Project there was overwhelming public support for this alignment. As time progressed there was less support and more opposition to the railroad and that the Town of Queen Creek has opposed at least a portion of this route since July 2008. He will note public opposition from three neighborhood groups, Queensland Manor on the north, the Rittenhouse Residents Against Transmission Lines (RRATL) and Remington Heights groups on the south side of Rittenhouse Rd. He will describe SRP's efforts to accommodate the Town of Gilbert for the line to be on the south side of the railroad from the canal to Power Rd.
- He will show the Committee the alignment through a series of aerial photographs of the route and simulations of the line.
- He will introduce the gas pipeline mitigation report prepared by Sargent and Lundy and explain how SRP can mitigate the potential impacts to the gas pipeline.
- He will testify that this is the shortest alignment in the north and is 8.44 miles. The estimated cost of this alignment is $18.7 million.

Ryan Alignment

Mr. Warner will testify to the following:

- He will discuss the current land uses for the Ryan Alignment are generally agricultural, with a few residents located on the north side of Ryan road. Agriculture land also dominates the Signal Butte Road alignment with a new development of residential on the west side of the road.
- He will discuss the planned future uses around the Ryan Alignment including a recreation strip planned south of the residences along Ryan, various industrial uses along the eastern end of Ryan. Further west between Meridian and Signal Butte an active sports complex facilities is planned.
- He will testify that there is little biological sensitivity along this alignment, cultural resources are found throughout the agricultural fields and often found during construction but this alignment is not disproportionally sensitive for impacts to cultural resources than other alignments along the railroad or north of the railroad. There are no noteable historic or scenic features along this line.

Mr. Novy will testify to the following:

- The route has been supported by much of the public as well as by the Phoenix-Mesa Gateway airport and the nursery which is situated between Germann and Ryan. Developers in the area have also expressed their preference of Ryan over Germann if their first choice of the railroad was not selected. Some of the larger landowners with holdings along both Meridian and Signal Butte expressed preference for the use of the Signal Butte alignment.
- The route has been opposed only by a few residences on the north side of Ryan Rd. Queen Creek has recently voiced their opposition to this route because it runs through a planned employment corridor.
- He will show the Committee the alignment through a series of aerial photographs of the route and simulations of the line.
- He will testify that this is the second shortest alternative in the north, 10.06 miles. The estimated cost of this route is $21.6 million.

Germann Alignment

Mr. Warner will testify to the following:

- The current land uses along this alignment consists of existing development with potential conflicts to residences and commercial structures concentrated in one area. The Phoenix-Mesa Gateway Airport is north of Germann Road. Agriculture lands dominate other areas of the alignment.
- The future land uses are generally industrial with the exception of where existing residential is located.
- The Germann Alignment will not directly impact any recreation areas.
- The alignment contains little biological sensitivity. Cultural and historic resources are similar to those along the Ryan Alignment. This area is not distinctive for scenic values.

Mr. Novy will testify to the following:

- The alignment is supported by the Town of Queen Creek. The Town passed a resolution in October 2008 in support of the Germann alignment. This route is opposed

by the City of Mesa and residents on both sides of Germann Rd. The Phoenix-Mesa gateway Airport has also expressed concerns about this route may impact the airport.

- He will show the Committee the alignment through a series of aerial photographs of the route and simulations of the line.
- He will discuss the impact of the airport's one engine inoperative rule on the project. In order to avoid impact that flight surface SRP will have to lower some of the poles to 80 feet and therefore shorten the spans.
- He will identify potential road crossing along Germann to avoid existing residential and commercial building along Germann.
- This is the longest alternative in the north, 11.0 miles. The estimated cost of this route is $25.0 million.

Substation Sites

Mr. Warner will testify:

- The current land use for the areas where alternative substations are depicted is farming but the areas are being developed into commercial and industrial uses.
- Future uses at and around the Substation sites include commercial and mixed use developments which are consistent with the plans of the Town of Queen Creek. The Town and developers have commented that Meridian is a future intersection of some importance for circulation and will likely be elevated to cross the Railroad. One of the sites south of Combs Road is a platted residential development. A future regiona commercial center is planned south of the railroad track. The site located on the north near Queen Creek is planned for industrial uses.
- There are no recreation areas on these sites.
- The area contains little biological sensitivity. Cultural resources are similar to those expected in agricultural lands. Impacts to Queen Creek and the riparian vegetation are not expected to occur for any of the substation sites. No scenic impacts.

Mr Novy will testify to the following:

- He will describe the substation site through a series of aerial photographs.
- The only public and developer input has been in opposition to the site south of Combs Road.
- The initial cost of the substation, including land costs is currently estimated to be $21.5 million.

South Railroad Alignment

Mr. Warner will testify to the following:

- He will describe the current land use for the South-Railroad alignment. The alignment is entirely in Pinal County south of Node 27, but is also in the Town of Queen Creek's planning area on the northern sections. Existing agricultural land dominates the areas around the railroad, with some sections of undeveloped desert. Some of the land is owned managed by the State Land Department.
- He will describe future uses noting that the county designates the area as Urban. Future land uses are predominately planned for residential developments north of the Railroad and commercial and residential for areas south of the railroad.
- There are no recreation areas along this alignment.
- There is little biological sensitivity for the South-Railroad alignment. Cultural sensitivities are similar to the railroad alignments on the north.

Mr. Novy will testify:

- The public supports this route almost exclusively. State land Department did not express opposition to this alignment. Pinal County staff has expressed a preference for the railroad alignment south of Node 27. Florence supported this alignment over the Combs and Skyline alignments.
- He will show the Committee the alignment through a series of aerial photographs of the route and simulations of the line.
- This is the shortest alternative in the south, 9.61 miles. The estimated cost of this route is $17.2 million.

Combs and Skyline Alignment

Mr. Warner will testify to the following:

- The current land use for the Combs and Skyline alignments is primarily agriculture and the routes cross through private and State Lands. Areas along Combs are in proximity to a few new residential communities and the hospital. The Skyline alignment avoids the residential areas along Combs Road and the proximity to the hospital.
- The planned land uses in the vicinity of these alignments are similar to each other and the railroad alignment. The county refers to this area as mostly Urban with some Transitional zoning on the east. The Town of Florence has extended their planning area to include the Abel substation site and some of the surrounding areas.
- There is some planned recreation north of the Central Arizona Project Canal but the line would not impact this area.
- These routes have little biological sensitivity, and are reasonably indistinctive in their sensitivity for cultural or historic resources. Both alignments originate at the UPRR which is an historic feature but we will not be in their right-of-way. There are no scenic values.

Mr. Novy will testify to the following:

- Neither of these routes were supported by the public. Both of these alternatives were originally identified by Pinal County and Florence staff as alternatives for further study as part of the Jurisdictional Working Group meetings. The Combs Alignment is opposed by Maracay Homes, Encanterra and Banner hospital. T he Skyline Alignment is opposed by the developer of a property at Bella Vista Rd and Quail Run Rd.
- He will describe the route to the Committee through a series of aerial photographs of the route and simulations of the line in that area.
- Combs and Skyline are both longer than the Southern Railroad alternative at 11.24 miles and 10.14 miles respectively. The estimated costs are $21.0 million for Combs and $18.7 million for Skyline.
- He will explain why SRP is seeking a 500 foot and 1,00 foot wide corridor.
- He will conclude by providing a summary of the attributes of each alignment and urge the committee to accept the preferred alternative of Ryan and the South Railroad.

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Summary of Williams Aviation Consultants
Testimony Jeremy Knaggs
July 31, 2009

Mr. Knaggs will testify to the following:

- He is a consultant with Williams Aviation Consultants and the program manager for airspace analysis.
- Williams Aviation Consultants, Inc. (WAC) is a Global Aviation Consulting firm whose principals include retired FAA executives, senior air traffic and airspace and managers. We use our many years of both technical and regulatory aviation experience to analyze projects worldwide for airport compatibility. Our clients include municipalities, high-rise developers, wind turbine and power utility companies who need to know how their projects will impact airport procedures.
- He is a graduate from Arizona State University. He has a BAS degree in Aviation Technology management. While working for Williams, he has become very familiar with the FAA's obstruction evaluation process and have analyzed many projects to determine their compatibility with airport procedures. He has also worked with FAA flight procedures staff on several occasions to resolve differences in technical calculations which resulted in favorable determinations from the FAA.
- Williams Aviation Consultants was retained by Salt River Project to review three transmission line route alignments and determine how the Phoenix-Mesa Gateway Airport would be impacted by each alignment.
- We analyzed the following routes:
    1. Northwest/Southeast route along the Union Pacific Railroad – known as the North-Railroad Alignment
    2. East/West route along Germann Road – known as the Germann Alignment
    3. East/West route along Ryan Road – known as the Ryan Alignment
- The purpose of the analysis was to determine the height to which transmission poles could be constructed along each route without having a negative impact on the Phoenix-Mesa Gateway airport.
- Williams evaluated four standards:
    1. 14 C.F.R. Part 77 (also known as Federal Aviation Regulation (FAR) Part 77), which establishes standards for determining obstructions in the navigable airspace.
    2. United States Standard for Terminal Instrument Procedure (TERPS) criteria which is designed to protect the airport's published and proposed instrument approach and departure procedures.
    3. The FAA Advisory Guidelines which recommend safe and efficient operating techniques.
    4. One-Engine Inoperative obstacle identification surfaces including FAA Advisory Circular (AC) 150/5300 Airport Design Guidelines and International Civil Aviation Organization (ICAO) Annex 6.
- 110 foot poles, along each of the three routes studied, would not penetrate the Part 77 FAR surfaces. 120 foot poles along the Germann Alignment and east of Crismon Road also would not penetrate the FAR Part 77 obstruction surfaces.
- The Terminal Instrument Procedures analysis are designed to ensure there is a buffer between the aircraft and all obstacles which pilots may not be able to see during periods

of low visibility. A review of the Phoenix-Mesa Gateway airport terminal instrument procedures revealed that 110' poles could be erected along both the North-Railroad and Ryan Alignments without penetrating any of the instrument approach procedure surfaces. It was also determined that 120 foot poles could be erected east of Crismon Road along the Germann Alignment without penetrating the instrument approach surfaces. However, it was found that 110' poles, along portions of the Germann Alignment (west of Crismon Road), would penetrate the terminal instrument procedure surfaces and would not be approved by the FAA. The maximum pole height in this area is between 90 feet and 109 feet.

- VFR aircraft operate under the "see and avoid" principal, therefore determining if a structure will affect VFR operations can be quite subjective. The FAA will first use a FAR Part 77 obstruction analysis to help determine if a proposed structure will have an effect on VFR operations. If a structure penetrates the FAR Part 77 surfaces, the FAA will then take into account specific airport guidelines to determine a structures effect on VFR operations.
- The FAA's Aeronautical Information Manual (AIM) contains official guidelines for basic flight information and air traffic control procedures. This manual contains directions for pilots regarding traffic pattern altitudes and how to enter/exit the traffic pattern for an airport. These guidelines are analyzed as one means of determining if a structure could affect Visual Flight Rule (VFR) operations.
- Since the FAR Part 77 analysis revealed that 110 foot poles along each of the proposed routes would not penetrate any obstruction surface, the proposed poles will not have an adverse effect on VFR operations.
- All commercial airlines are required to develop One Engine Inoperative (OEI) procedures for each airport out of which they conduct operations. The Federal Aviation Regulations prescribe that in the event of an engine failure on takeoff, commercial air carrier type aircraft must be loaded in such a manner that they are able to clear obstacles along their intended route of flight either by 35 feet vertically or 300 feet laterally.
- The FAA does not protect for airline OEI procedures, and while they do require airlines to develop and utilize an approved procedure, the FAA does not Consider OEI to be a safety issue. Each airline individually develops an OEI procedure and route and there is little or no coordination between different airlines in the development of these procedures.
- The FAA has, however, developed a One Engine Inoperative obstacle identification surface which extends from the end of a runway at a slope of 62.5:1. This surface is not meant to be free from penetration, but rather is to be used to identify obstacles that airlines should take into account when developing their specific OEI procedures.
- We completed an analysis of two different 62.5:1 OEI surfaces. The two surfaces which were analyzed included:

    1. The FAA AC 150/5300-13 Airport Design surface which is shown on the airport's layout plan
    2. The International Civil Aviation Organization (ICAO) Annex 6 surface.

- The OEI standards do affect the pole heights on the Germann Alignment. A pole as short as 75 feet would penetrate the AC 150/5300-13 OEI surface. Considering the ICAO Annex 6 surface, poles would be limited to as low as 90 feet without penetrating this OEI surface.
- He will conclude by testifying that both the Ryan Alignment and the North-Railroad Alignment can accommodate 110 foot poles without affecting the airport's procedures or penetrating the OEI obstacle identification surface. Additionally, pole heights along

portions of Germann Road will need to be reduced so as not to penetrate the circle-to-land instrument approach procedure. Also, considering the OEI obstacle identification surface, pole heights would need to be reduced to prevent penetration to this surface.

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